

# ***Tolling of Indian Highways Future Perspectives & International Experiences***

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## **A. INTRODUCTION**

Even though the concept of tolling of roads and highways for financing highway infrastructure investment has been known for many years, Malaysia was the first country in the Asian region to introduce toll roads, in 1966. While some countries, including India, have historically avoided toll financing, in the current environment of fiscal restraint nearly all countries, India included, have turned to tolls as a preferred means for financing highway infrastructure investment, including for O&M of existing highways built with public funds. In this context, users in India have become accustomed to the concept of paying toll/fee for use of bridges on National Highways, at least for the last two decades.

While on the one hand there exists a wealth of institutional, regulatory, and financial experience worldwide in the building and operating of toll road systems, however, in terms of the Asian experience, even though several developing Asian countries have already introduced toll road systems, many of these countries do not yet have a clear or comprehensive vision and strategy for the future development and management of their toll road networks.

India has a vast network of National Highways (NHs) aggregating around 34,298 km connecting important towns cities, ports and industrial centres of the country. Industrialisation of the country has induced a traffic growth of 8-12 percent per year on many sections of National Highways and this growth trend is expected to continue. While the traffic on National Highways has been growing at a rapid pace, it has not been possible for the Government to provide matching funds for maintenance and expansion of existing highways and/or for building new highways, due to competing demands from other priority sectors. This has led to a large number of deficiencies in the network and significant amount of capacity augmentation by way of widening, grade separation, construction of bypasses, bridges and expressways etc. is required. The overall scenario on the highways has led to economic losses by way of longer turn around time for the vehicle fleets, rising vehicle operating costs and dissipation of human energy in the driving. To motivate the inflow of resources for the development, maintenance and management of NHs and to improve their efficiency, productivity and quality of service and to bring in competitiveness in providing highway services to road users, the Government of India, in consonance with its general policy of liberalisation/globalisation

of the Country's economy, has formulated several policies and guidelines to attract private investment and latest technology and improvements in the National Highways.

Therefore, while India has made significant achievements over the last decade, it may be valuable for the policy-makers to learn the lessons derived from the successes and failures of toll road development in other countries in order to formulate appropriate institutional and regulatory frameworks suited to India's needs.

## **B. STRUCTURE OF THE PAPER**

In putting together an institutional framework, the policy makers are called upon to consider diverse issues, competing interests, evaluate and crystallize positions to put together a set of regulations that will reflect the ideal regime for the economy and in doing so, also address concerns of private investors so that private capital can be attracted into the sector. This Paper makes certain assumptions – based on published policy and/or practice<sup>1</sup> - in arriving at certain of its conclusions. This Paper also relies on published studies and reports by the World Bank in terms of drawing on international experience<sup>2</sup>. In the context of development of highway infrastructure, including establishment of an effective tolling regime, the following are the key issue areas that policy makers need to focus on :

- planning and institutional;
- concession contracts;
- government support;
- traffic forecasting;
- setting and adjusting toll rates;
- financing structure and sources;
- public acceptance; and
- the role of donor agencies.

The legal and regulatory framework (“Framework”) must capture the essence and detail of the policies on the aforesaid key issue areas. This Paper examines and discusses some of the more essential of the aforesaid key issue areas to arrive at a recommended Framework for tolling of Indian highways to meet future demands and dynamics of the sector and in doing so, the author recommends building on the existing Framework to evolve into one that will balance the interests of the investors as well as the rate payers. Once the institutional issues are addressed and crystallized by the policy makers, the same can be implemented only through an effective Framework.

This Paper relies on published data and information to establish future trends and volumes for the country and in putting together the Framework, also draws on international experiences especially in other emerging economies<sup>3</sup>.

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<sup>1</sup> Government of India policies and guidelines for private investment in National Highway projects, diverse studies conducted and reports published by the Government of India and the NHAI and by industry associations such as CII and the IRF (International Road Federation, a non-governmental, not-for-profit organization with public and private sector members in some 70 countries)

<sup>2</sup> Studies financed by World Bank for Asian Toll Road Development Program

<sup>3</sup> Asian Toll Road Development Program

While the Paper makes references to the experiences and structures that exist in diverse States as well as certain initiatives taken by certain State Governments, the focus of the paper is on National Highways. It is expected that the success in effective implementation of large highway projects at the National level will gravitate to the States and the culture of encouraging private investment in infrastructure in general and in the highways sector in particular, will become the norm.

The diverse chapters of this Paper summarize key issues and sub-issues on toll road development and capacity augmentation by way of widening, grade separation, construction of bypasses, bridges and expressways etc. and even for ongoing operation and maintenance of existing highways that have been built using public funds, introduce relevant experiences in certain developing and developed countries, and present a summary of lessons learned and thereafter, devise an institutional structure and Framework for tolling of highways in India.

## **Chapter I. INSTITUTIONAL STRUCTURE**

1. Undoubtedly proper planning and establishment of an institutional framework are imperative for sustained investments, especially private investments, in the highways sector and must clearly define the institutional objectives. The planning and institutional issues fall within the domain of the public sector and need to address issues such as (i) the need for a strategic network planning framework; (ii) cross-subsidies for network expansion; (iii) the problem of overlapping responsibilities among government agencies; (iv) alternative forms of operating entities; (v) the need for proper project preparation; (vi) the importance of strong public sector institutions; and (vii) defining the role of the private sector and devising mechanisms for involving the private sector.
2. **Need for Strategic Network Planning Framework.** The need for long term yet dynamic strategic network planning is obvious. Countries that have successfully developed toll road networks have demonstrated well-established strategic planning frameworks, compared to the less successful countries. A strategic planning framework incorporating network analysis is required to optimize the benefits and minimize the costs of toll road development. Therefore, the traffic demand and the needs of road users should determine where a road should be located and how wide it should be. Strategic and political objectives should play only a minor role. Components of such planning should include: (i) refining the strategic road network and the most appropriate alignments of the key links; (ii) firming up the appropriate timing of construction of individual links based on corridor studies; and (iii) establishing clear economic and financial viability. The strategic planning must set clear goals and principles on which future expressway development is to be based and such planning must be dynamic to meet future demands.
3. Japan has a well-defined strategic planning framework where strategic nationwide toll road plans are clearly defined every five years and issued as ministerial regulations. In Japan the expressway network has been expanded

across the country, to promote accessibility and promote regional economic development.

4. On the other hand, many developing countries, such as Indonesia and Mexico, have not demonstrated a strong master planning framework. The Indonesian Ministry of Public Works has been responsible for the initiation of toll road projects in the country, but various sections of its toll road program were conceived in isolation and implemented through solicited and unsolicited procedures. The Indonesian program was neither derived from a long-term strategic interregional network development plan nor was it coordinated with plans for capacity expansion of non-toll highways. In Indonesia, there have also been some shortcomings in clearly establishing the economic and financial viability of toll road sections. Some of the decisions, it now appears in hindsight, were motivated, however, Indonesia demonstrates a clear example of a lack of institutional and strategic planning for the development of its toll road network.
5. Similarly, Mexico too lacked a vision and a proper strategic plan. Its toll road development had neither an intermodal transport development strategy, nor did it design projects to fit in with regional long-term development plans. This lack of vision and a strategic plan raised serious issues at the time of the Government's concurrent rail, port, and airport privatization plans. Furthermore, even the highway development when considered in isolation, was inadequate, for example, some key segments of the five "priority corridor" roads were never concessioned, and other toll roads lacked important links to other highways in the network.
6. India too has tended historically to view the highways development in isolation without planning for seamless integration with ports, industrial estates, railways and airports. There are several instances where trunk routes run parallel to railway tracks, thus promoting competition, rather than synergy, between the railways and highways.
7. **Cross-Subsidies for Network Expansion.** The author believes that any form of subsidy, including cross subsidy, can only lead to economic distortions, especially in the Indian context where political compulsions subvert the otherwise theoretically sound economic principle. However, it is worth noting that the experience of Japan, France, and Italy where toll revenues were pooled, greatly contributed to network expansion. The Government of Japan set a goal to build a nationwide expressway network that included routes running through rural areas and/or areas with terrain upon which road construction would be costly. Japan achieved most of its integrated network development through cross subsidization of the less busy rural roads by the more busy highways.
8. France, similarly, constructed an extensive highway system connecting all of its primary cities and many of its secondary urban centers. To achieve this, France employed a system of cross subsidies within companies in the 1970s and among companies in the 1980s. Although the system was initiated with an aim of overcoming a financial crisis, the system resulted in expansion of the toll road network and toll harmonization.

9. Italy utilized the system of cross subsidization for its motorways operated by Autostrade S.p.A. to establish uniform tolls across the network, and toll increases were justified if require for constructing, operating, and maintaining the entire network.
10. Toll revenue pooling has also been utilized for the development, operation and maintenance of integrated regional networks comprising regional toll roads and urban expressways.
11. Cross subsidization, however, involve several issues, including in-equity among users, economic inefficiencies and distortions that might arise from insensitivity to route or segment profitability, and the determination of routes to be included in the system.
12. The critical issue that needs to be considered by policy makers in India is whether the social and economic advantages of having an extensive network of high-performance highways rather than a smaller network in which each individual segment is self-supporting, off-sets the resultant loss of financial discipline and the possible misallocation of scarce resources through the use of such subsidies. Japan met this issue directly by limiting the amount of cross subsidy available for a loss making segment to a maximum of half of the total construction cost of the segment. The balance is required to be covered by the toll revenues of the segment itself or by subsidies from the government. As stated above, while the author in principle does not advocate any form of subsidies, however, at the same time recognizes that judicious use of subsidies can promote economic development. To be able to enforce such judicious use of subsidies, it is imperative to establish an independent regulatory mechanism that will take decisions on subsidies driven purely by economic and financial considerations rather than by extraneous factors and influence.
13. **Problem of Overlapping Responsibilities among Government Agencies.** There are several international examples where toll road planning, implementation, and regulation has been undertaken by multiple government agencies and consequently, redundancies and overlapping responsibilities among the agencies have resulted.
14. One of the prime examples is Thailand where separate, sometimes competing, toll road projects have been prepared by three government agencies (i.e., the Department of Highways (DOH), Ministry of Public Works; the Expressway and Rapid Transit Authority (ETA), Ministry of Interior; and the State Railway of Thailand (SRT), Ministry of Transport and Communications). The consequences of such duplicative efforts is obvious and includes construction difficulties because of physical (right-of-way) conflicts between and among projects, with attendant environmental implications. The legislation intended to deal with this issue i.e. The Royal Act on Private Participation in State Affairs (1992), which applies to transport as well as other sectors, in fact ended up being inward looking since it sought to balance diverse conflicting demands and requirements

and sought to represent the interests of various ministries and agencies rather than focus on the required inputs for successful project implementation.

15. Taking another example, in the Philippines, despite comprehensive BOT legislation, the responsibilities of the various public sector institutions in charge of toll road regulation and implementation overlap considerably. It is unclear exactly which agency is to initiate planning for individual toll road projects. By law, the Toll Regulatory Board (TRB) is to plan for toll roads, as they are the agency tasked with overseeing the development of toll roads; however, toll road companies with existing franchises (Public Estate Authority and particularly Philippine National Construction Company) also may plan for toll road expansion under their original franchises. But, under the BOT Law, the Department of Public Works and Highways is the implementing agency for national roads projects whether they are tollways or not, and TRB is regarded as just a regulatory body. Furthermore, under the BOT Law the private sector can (and is indeed encouraged to) also initiate their own plans by means of unsolicited proposals.
16. These institutional problems can be addressed by creation of an overall regulatory authority that will have overall responsibility and authority for planning and development of toll highways.
17. **Need for Proper Project Preparation.** Before inviting the private sector to undertake toll road concession projects, basic information (e.g., base-year traffic forecasts, basic engineering, basic design, soil studies) should be established by the grantor. A project should ideally provide for (i) selection of a project with strong economic and financial justification, in view of its impact on transport systems; (ii) retaining of financial and legal advisors with international experience to structure the project and prepare the legal documentation; (iii) design of the bidding process to attract quality international and domestic investors; (iv) providing bidders with detailed engineering data, while giving them the time to prepare their own estimates; (v) state-of-the-art traffic forecasts; (vi) advance consideration of social and environmental issues; advance purchase of right-of-way, i.e., before financial close; and (vii) drafting a concession contract with incentives to improve performance and flexibility to manage uncertainty while avoiding opportunistic renegotiations.
18. Chile presents another interesting, alternative approach. It allows the private sector to propose new projects, and in certain cases provides for repayment of costs incurred by private firms for the development of project concepts adopted by the government for competitive procurement. Also worth noting is the Government of Chile's practice of reducing construction risk by giving bidders reference designs, which are about 90 percent complete, although variations are permitted.
19. On the other end of the spectrum is Thailand, where the government's policy has generally been reactive and sometimes pre-empted since private-sector proposals have generally been approved (e.g., as in case of the Bangkok Elevated Road and Track System, BERTS). Such decisions were made without prior adequate master planning or other analysis to assure that the projects are

in the public interest. Consequences of inadequate project preparation have included: (i) parallel, competing projects; (ii) few bids, resulting in little competition; (iii) poorly structured concession agreements, not based on sound risk allocation principles and an underlying detailed financial analysis; and (iv) a lack of confidence in the private sector about the Government's commitment to follow through on signed concession agreements.

20. **Importance of Strong Public Sector Institutions.** Even where private investment is sought to be attracted, strong public sector institutions are still required to assure efficient planning and implementation of toll roads. Argentina and Mexico are examples where institutions require strengthening. The Dirección Nacional de Vialidad (DNV), which is now the planning and coordination agency for national roads in Argentina, lacks sufficient capacity to adequately supervise concessionaires. Similarly, the Secretariat of Public Works, the responsible agency for access roads, reportedly suffers from a similar deficiency.
21. Similarly, in Mexico, in several cases the public (and private sector) organizations involved with toll road development lack sufficient technical, organizational, staff, and financial resources to plan for and implement the proposed projects successfully. The Mexican Secretariat of Communications and Transport is understaffed and has inadequate overall institutional capacity to take on the commitments demanded by the scale and nature of Mexico's private toll road program.
22. One of the main challenges faced by several developing countries is funding required for developing the planning capabilities with the public sector institutions. Like Philippines, various funds could be developed for government-commissioned feasibility studies of unsolicited proposals and these funds could be funded with contributions from the private sector project proponents, possibly in the form of a levy on income or fee. These funds can be deployed to prepare project plans proactively and to conduct feasibility studies alongside the private sector.
23. **Involvement of the Private Sector or PSP Contracts.** Toll roads were out of favor for many years, because of the concerns about traffic diversion away from the new facility. However there has been a revival of interest in the last ten years, principally to raise off-balance sheet financing and to involve the private sector in the provision of roads. This coincides with a growing interest in private sector involvement in infrastructure more generally. There are additional complexities (risks, and costs) when the private sector is involved in the provision of toll roads. These depend on the mechanism selected, and are offset by benefits (off balance sheet financing, risk transfer, efficiency etc.) in some cases.
24. Some of these complexities, some poor forecasting, and the Latin American and Asian financial difficulties, have all come together to make potential project sponsors and lenders more wary. This reinforces the need for Governments to get good advice and to think through their objectives for the road and for private sector involvement in its provision.

25. Depending on Government objectives the method and scope of private sector involvement may vary. The strategy setting process should have identified objectives and potential roads for tolling. There are four different basic options for involving th private sector:

- O&M contracts;
- Rehabilitate, Operate, Transfer (ROT) contracts;
- BOT contracts; and/or
- Corridor management/maintenance contracts.

Each of the aforesaid options allows new revenues to be raised. Only the BOT schemes and the UK's corridor management schemes provide new roads. The UK scheme includes both new construction and maintenance of existing corridors. Each of the aforesaid forms of contract would certainly lead to improved maintenance. The above conclusions are summarized in the table below:

**Summary of Objectives met by different styles of PSP contract**

	O&M	ROT	BOT	Corridor management/maintenance
<b>New revenues</b>	X	X	X	X
<b>New construction</b>			X	X
<b>Improved maintenance</b>	X	X	X	X

26. While BOT concessioning has dominated the Asian approach, on the other hand maintenance concessions are more common in Latin America. Some Governments, and even some public sector toll road authorities, have entered into contracts with the private sector simply for collection of tolls and daily operation of the road. This is the approach in Norway, where there are 26 toll companies. Maintenance concessions on all but very low-traffic roads, due to the lower initial expenditures, can usually recoup their costs from the toll revenues.

27. On the other hand, experience is showing that BOT concessions are most likely to be successful under the following conditions:

Projects in existing high traffic corridors with missing links such as river crossings. These offer the prospect of high traffic on opening and minimize the land costs;

Inter-urban projects because the implementation costs are minimized. Traffic risks are also likely to be lower than in dense urban networks. In urban areas projects at-grade or elevated will keep construction costs low;

Projects in middle income countries where there is a willingness to pay tolls;

Projects where tolls are set at, or close to, the revenue maximizing tariff and toll escalation formulae are invoked;

Projects where there is an existing income stream from which to draw revenues from day one, perhaps even during the construction period;

Well prepared projects where feasibility issues, particular for land acquisition, have been addressed and therefore the implementation risks are minimized;

Large projects because there are high, relatively fixed, bidding costs for BOT projects;

28. India too faces the above and other similar challenges and it is submitted that the same can be dealt with only through an institutional framework that provides for a regulator entrusted with the responsibility and authority to develop the strategic plan for the national highways network and to implement the same. It is submitted that since the NHAI is already responsible for most of these activities and is already exercising certain powers of a regulator, it would be best suited to evolve into the role of an independent regulator that will plan, design and execute projects either by itself or through bidding process by private investors. However, in the long term, the NHAI should divest one of these roles and remain either a regulator or a developer.
29. Studies have shown that only a very small part of India's road network may qualify for privatization, in terms of traffic and profitability. However, public funds saved by involving the private sector in building, upgrading and operating these heavy traffic links could contribute towards the upgradation of the rest of the network. It appears that combining direct user charges with private concessions is a viable option to bridge the huge gap between the limited road funds available and the massive investments required.
30. In terms of establishing an institutional framework for India, in the BOT/toll formula, the government should limit its role to setting the general framework and to funding roads unlikely to be profitable. These unprofitable roads are important for social and political reasons and should ideally be financed from a dedicated road fund, that is funded by alternative revenue sources such as fuel cess.

31. As regards strategic planning of the highways network based on traffic loads, there are clear signs in India of the potential for profitability of roads for reasons including:

India's burgeoning prosperous middle class of about 250 million, whose improving standards of living include personal mobility;  
Availability of long term risk capital that was previously lacking, is likely to become available in the form of pension funds. The Insurance bill and more recently the proposed implementation of the pensions reform is likely to lead to creation of long term pension funds;  
Opening up of the highways sector to FDI;

32. In conclusion, the institutional structure and Framework should apply the following criteria for road development and road finance :

Introduce tolls where economically feasible, i.e. on highway sectors with high volumes;  
Invest in user-payer education;  
Create long term risk capital, such as pension funds;  
Reduce capital costs by various fiscal measures, including reduced interest rates, lower import duties, etc.;  
Concentrate scarce public funds on low traffic, local or rural networks;  
Consider market mechanism for setting toll rates;  
Create a road upgradation/maintenance fund for public roads, to be funded from road and fuel cess.

## CHAPTER II. GOVERNMENT SUPPORT

1. There are a variety of government support measures that can be provided to public corporations or private toll road concessionaires. Countries that have been successful in toll road development tend to provide an appropriate combination of government support measures. The degree of support that should be provided to particular toll road operators, however, depends on the political and economic situations of the countries. It is also important for the government to assess critically the possibility of large contingent liability in the case of guarantees such as foreign exchange guarantees, loan/bond guarantees, or equity guarantees. Discussed below are some of the well known forms of Government Support :
2. **Comfort Letters.** Though these are legally non-binding these can give financiers and sponsors a minimum level of assurance when no implicit government support is attainable. Comfort letters have proven useful in *China*, at least in the power sector. A case in point is the Laibin B Power Station, China's first pilot BOT project involving US\$620 million in costs funded through a commercial loan of about US\$160 million together with equity and export credits; at the request of the investors and lenders, the State Development Planning Commission issued a general letter of support of the project. By stressing the importance placed on the project by the government, such letters of support can provide investors and lenders with some comfort that the project will secure relevant approvals and other policy support.

3. **Land Acquisition.** In most private toll road projects, the land is acquired and held in the name of the grantor or another governmental authority, largely for strategic reasons. The private sector typically would like to avoid the following two situations (i) large acquisition cost and capital cost during early years of a project when no particular revenue is expected; and (ii) ownership of land that may not be converted into other uses, while various taxes and duties may be imposed on the acquisition and the ownership of the land. Approaches vary, however, as to whether the concessionaire or the grantor is to pay land acquisition costs and related compensation. The approach adopted in Guangdong Province (China) involved the public sector acquiring the required land and transferring it to the private sector at no cost, while after the concession period, the private sector is to transfer it back to the public sector at no cost. In projects in Bangkok (Thailand), the Expressway and Rapid Transit Authority of Thailand (ETA) expropriated the land but the concessionaires have been obliged to reimburse costs. In the Dulles Greenway project (United States) project, the private sector acquired the land (and owns it, then transfers it to the public sector after the concession period at no cost).
4. In India, ordinarily the private project developer for any infrastructure project is expected to pick up the initial cost of acquisition of land including the compensation, though there are certain exceptions, for instance, the Bangalore International Airport where the Government support includes grant of land.
5. **Extension of Concession Period.** Extension of the concession period is a supplemental measure for compensating the loss of profit caused for a variety of reasons. Extension of the concession period, a common practice in toll road BOT projects in many countries, may be granted when a force majeure event causes cessation of toll road operation for a certain period due to the occurrence of war, earthquake, riots, or other events that have been defined in the concession contract.
6. The extension of concession or redemption period as practiced in Italy and Japan may be used to keep tolls at relatively low levels while maintaining financial returns. In Japan, the redemption period for intercity national expressways was extended to 40 years in 1985, up from the previous 25- 30 years, in order to minimize toll rate increases.
7. Extension of the concession period has been applied in “bridge financing” concepts in Indonesia. Jasa Marga, the Indonesian public toll road corporation, has tried, with little success, to interest international investors in an approach whereby private firms are asked to accept the uncertainty, cost, and delay of right-of-way acquisition and resettlement in return for an extension of the original concession period.
8. **Construction of Related Facilities.** In addition to land acquisition, the construction of related facilities (e.g., access roads) can be a critical element for a toll road operation. The construction of an approach road to two toll bridges,

Second Severn Crossing and Dartford Crossing (United Kingdom), provides a typical example of this type of government support. There are three kinds of risk involved in this support: (i) delay in acquiring the necessary land, (ii) delay in construction, and (iii) potential facility defects. The risk of potential defects is generally assumed by the government, but in case of Design, Build, Finance, and Operate (DBFO) projects in United Kingdom, the consortia participating in the bid are obliged to submit a proposal regarding the magnitude and the methodology of the potential defect risk that they are ready to assume. At least arguably, the Don Muang Tollway Project in Thailand provides an example of the government's not fulfilling its obligation of removing a related facility; in this instance, intervening political pressures made it difficult for the government to remove two existing flyovers to facilitate the flow of traffic towards the Tollway, and as a consequence, the company defaulted on its debt service payments.

9. **Revenue Support and Revenue Sharing with Existing facilities.** The ultimate risk, that of traffic, cannot be controlled solely by a private concessionaire; it is especially critical in a greenfield project where demand is most difficult to forecast. A minimum traffic or revenue guarantee, in which the government compensates the concessionaire in cash or in the form of a soft loan if traffic or revenue falls below a specified minimum level, is a relatively common form of government support. Typically, the minimum traffic or revenue threshold is set below the expected level by 10-30 percent in order to reduce government exposure while providing sufficient coverage to support the debt component of the capital structure. Under such a structure the government can support private financing for a road that it would otherwise have to fund on its own, while limiting its financial exposure to the possibility that revenue may fall below the guaranteed minimum. In addition, traffic and revenue guarantees retain the sponsor's financial incentive in the project, provided the minimum revenue stream does not allow for an attractive return on equity.
10. The North-South Expressway in Malaysia (soft loan), and many CJV projects in China (cash) provide examples of minimum traffic or revenue guarantees. In the case of the Western Harbor Crossing and the Route 3 Country Park Section in the Hong Kong Special Administrative Region and Colombia's Buga-Tulua Highway, a more elaborated cap-floor adjustment mechanism was introduced to cope with the traffic risk.
11. Entitlement to revenue from existing toll roads and bridges can considerably lower the start-up risks of a project by providing cash flow that it would otherwise be unable to attain. There are many such examples as the North-South Expressway in Malaysia, the Second State Expressway in Thailand, the toll bridges in United Kingdom, Sydney's Harbor Crossing in Australia, and M1/M15 in Hungary. The World Bank assisted Toll Road Concession Project in Colombia included operation of an existing contiguous tolled section, which will allow for economies of scale in operation, as well as reduce financial support and enhancing project revenues. By including a road opened to traffic in 1995 in the toll road concession package, the Government of Colombia assured that at least one component would generate net revenues from the beginning. Chile has allowed bids to include government revenue guarantees, with the government

prepared to guarantee minimum revenues over a concession period equal to 70 percent of construction, maintenance, and operating costs.

12. **Shadow Tolls.** Shadow tolling is an experiment for introducing the BOT model in the toll road sector, whereby a private sector consortium agrees to finance the construction or upgrade of a stretch of road and, for a concession period such as 30 years, is entitled to operate and maintain the road and receive “shadow” toll revenue based on actual levels of traffic. The concept was created for DBFO (Design, Build, Finance and Operate) roads in the United Kingdom. The shadow toll is paid to the concessionaire by the government, not charged to motorists. The shadow toll usually consists of two components: an availability payment and a performance/usage payment where the former is paid based on the availability of required capacity (number of lanes) whereas the latter is paid on the basis of vehicle-kilometers achieved.
13. **Provision of Development Rights and Third-Party Revenues.** This issue often arises with respect to the financing of a project that may generate large economic benefits to society but may have a weak project “economics” for various reasons such as an imbalance between a relatively intensive capital cost and slow traffic growth during early years of the project. The project economics of the Malaysia-Singapore Second Crossing was enhanced by the provision of development rights for a new township in the vicinity. The Hong Kong government provided the Eastern Harbour Crossing Project rights for commercial development around the stations and residential/commercial development over a part of the covered road section, which were sold to provide revenues that enhanced project economics. The Guangdong Super Highway Project in China also involved the provision of development rights at interchanges, but benefits have been affected by a delay in the opening of the Highway.
14. **Subsidies, Grants, and Subordinated Loans.** While guaranteeing loans and equity create contingent exposure to varying degrees, depending on the expected operational performance of the toll road project, subsidies, grants, and subordinated loans at project startup as cash or in-kind contributions can provide critical support to project “economics.” A government can fill important gaps in the financial structure between senior loans and equity by providing a subordinated loan. Subordinated loans are repaid after debt service on senior loans before returns to equity.
15. In Malaysia, the Government provided the North-South Expressway (NSE) a US\$634 million subordinated loan, or about one fifth of the total project capital of US\$3.192 billion, together with the 310 km of NSE that was already completed and operated by the Government.
16. Chile provided a US\$5 million cash grant to the concessionaire of the South Access to Concepción project, or one quarter of total project capital (no provision for repayment).
17. Because the provision of subordinated loans and grants represent direct spending of general tax revenues, a government must be prepared to justify such

spending to its citizens. Justification may be provided, for example, by showing that the economic and financial benefits of the project will be more than sufficient to cover the amount of grant and contributions.

18. The World Bank assisted Toll Road Concession Project in Colombia was sensibly designed with an up-front capital contribution (determined at the bidding stage) rather than an operational subsidy in order to reduce government exposure throughout the operational period and to increase bid responsiveness, as well as to reduce the financial risks borne by the project sponsors. An up-front subsidy is subject to budgetary approval and hence careful scrutiny, while operational subsidies are not similarly scrutinized even though they may result in higher liabilities in future years.
19. The Government of Spain assumed a disproportionate share of the risks associated with the development of the privately concessioned toll roads (autopistas) in the period from 1960 to 1981, a consequence of its offering loan guarantees for up to 75 percent of its foreign debt as well as exchange rate assurance. As it happened, the loan guarantees were not drawn upon and were probably essential for attracting financing. In general, lump-sum, up-front subsidies would have been preferable, defined by competitive bidding, with provision for the Government to recoup its investment by sharing in project revenues.
20. **Foreign Exchange Guarantees.** Under an exchange guarantee the government compensates the concessionaire for increases in the local cost of debt service due to exchange rate fluctuations. Because such fluctuations can constitute a significant project risk when foreign capital is involved, government guarantees can have a substantial impact on a project's ability to raise financing with perhaps a lower interest rate. A foreign exchange adjustment mechanism was built into the toll formula for the Skyway Project in the Philippines and the aborted Cikampek-Padalaran project in Indonesia. With currency devaluation such as that which had occurred in many East Asian countries, the indexation of foreign exchange rate fluctuations to a toll formula would not mean much to concessionaires, because currency devaluation of such magnitude profoundly damages the entire economy of a country and has considerable impact on domestic interest rates; the impact of the "foreign exchange portion" of the project is only one of many elements that must be negotiated with the government.
21. Foreign exchange rate assurance can be inefficient as in the case of Spain. The total exchange losses over the years amounted to five to six times the equity invested by the autopista shareholders, and the exchange assurance provided by the Government may have been worth less to the companies than it cost the Government to provide.
22. **Loan (Bond) Issue Guarantee.** Under this approach the government provides a full guarantee of cash-flow deficiency guarantee for repayment of loans. As with an equity guarantee, a loan guarantee entails no public cost as long as the project generates sufficient cash flow to service debt.

23. In Japan, toll road projects undertaken by Public Corporations have been financed largely by two types of government guaranteed bonds provided by Treasury Investment and Loans: (i) Government Acceptance Bonds and (ii) Government Guaranteed Bonds. Government Acceptance Bonds are purchased by the Ministry of Finance and the Ministry of Posts and Telecommunications with funds from sources such as postal savings accounts, employee pension funds, national pension funds, and postal life insurance premiums. The Government Guaranteed Bonds are guaranteed by the Government and purchased by private financial institutions.
24. In China, limitations with respect to the creditworthiness and commitment of provincial contracting parties in joint ventures has led to long, costly negotiations and has caused foreign institutions to assess risk premiums, with consequent effect on costs. Foreign lenders have required explicit guarantees from government institutions and banks before providing limited recourse financing. In the Guangzhou-Shenzhen Super Highway Project the government provided a cash-flow deficiency guarantee for repayment of loans, guaranteed by Guangdong International Trust & Investment Corporation (GITIC). The project faced difficulty in servicing the debt repayment, and the GITIC guarantee was triggered to compensate the shortfall in the loan payment from the concessionaire to the financiers. It is highly likely that when loan guarantees are exercised extensively by the government, a “moral hazard” will result for both sponsors and financiers, which may ultimately lead to an increase in problem loans in the toll road sector of the country.
25. **Equity Guarantees.** Under an equity guarantee, the concessionaire is granted an option to be bought out by the government with a guaranteed minimum return on equity. Although there is no public cost under this arrangement as long as the project generates the minimum return on equity, the government essentially assumes all of the project risk, and private sector performance incentives are severely reduced. Accordingly, this type of guarantee is not recommended for privately financed toll road projects.
26. **Special Funds.** In some countries, special funds have been established to provide stable funding sources for highway development. The road networks in Japan totals more than 1 million kilometers including about 7,900 km (as of FY1998) of national and urban expressways (all toll roads). An earmarked funding system for road works was initiated in 1954 when revenues from a gasoline tax were set aside for the implementation of a “Five-Year Road Improvement Program, which has led to socioeconomic development over several decades. In France, to secure sufficient funds for public toll road corporations (SEMCA), Caisse Nationale des Autoroutes (CNA) was established in 1963 as an autonomous public agency to arrange financing for the development of toll roads. It issued bonds in domestic and international capital market.
27. It is also important for the Government to take swift and deliberate steps with respect to troubled projects once they have been given priority status, in order to

maintain investor confidence. The establishment of an Infrastructure Development Fund in Malaysia is a case in point. However, if the current crisis continues and many projects default, the Government could end up with a large fiscal problem in paying back the debt, while being saddled with underused toll roads for which it lacks the funding and human resources required for their operation. The Government of Italy also established a special government account under the Act 813 of 1978 to cross-subsidize financially troubled concessionaires and the revenues for this account have been derived from incremental toll revenues from existing toll roads.

28. While India has seen several examples of one or more of the afore described forms of Government Support in the infrastructure sector, especially the power generation sector, however, for diverse reasons – both political and legal, most of the above forms of Government Support would not be available today. However, there may be projects that would be completely un-viable except with Government Support and such projects may result in economic and financial benefits to the society that may be more than sufficient to cover the quantum of Government Support, in which case, the appropriate Government would ordinarily negotiate the support to be provided by it to the project.

### CHAPTER III. FINANCING ISSUES

1. There are of course diverse financing structures and sources that have been deployed in the financing of highways. In India, historically all highway development, construction, maintenance and operation was financed through state support/budgetary allocations and international funding agencies' loans. However, more recently, with the government policy of attracting private capital, several innovative financing structures have been used. In order to attract private capital, there are diverse issues that need to be addressed in the context of the diverse financing structures. Issues on financing structure and sources are influenced by government support and policies. Therefore, the author recommends an aggressive policy and support from the government to attract private investments in the highways sector.
2. Some of the critical issues in relation to tolling in the context of financing highways, are discussed below and the learnings drawn from these issues are highlighted in order that the Framework addresses these positively.
3. **Advantages and Disadvantages of Toll Financing.** At the threshold, the relative advantages and disadvantages of toll financing of highways as compared to financing from fuel taxes or other revenues sources, need to be evaluated. The concept of fuel cess has been applied in Northern Europe, North America, and Australia and also more recently in India in the finding of the golden quadrilateral. The decision of whether to toll a particular segment or not is important where traffic levels are relatively low and the decision should be justified by economic analysis including the costs of establishing a toll system, the collection costs, and the diversion of tolls by collectors (leakage), which can be high. Certain precedents suggest that additional construction costs can range between 2-8 percent of initial costs and that operating expenses can range

between 5-20 percent of toll revenue, depending on whether an open or closed tolling system is employed. In France, tolling has resulted in increased construction costs of about 10 percent and increased operating cost equal to 10-12 percent of revenues and such increased costs are considered to be comparable or lower than the collection costs and economic distortions of alternative revenue sources such as fuel cess.

4. The author is of the view that the alternative revenue sources such as fuel cess, in the long term perspective, would lead to economic inefficiencies and distortions and certainly in the political and fiscal environment prevalent in India, the alternate revenues so collected would ordinarily not be channelised to its intended destination. Therefore, in the author's opinion, each segment or at least a determinate regional network of highways, should be self supporting. However, alternate revenue sources may have to be relied upon to fund sectors that do not qualify for privatization.
5. A World Bank report for Vietnam<sup>4</sup> suggests that the economic costs of raising revenue by tolling - including capital costs, collection costs, leakage plus traffic diversion/ suppression cost - should be lower than the cost of raising revenue by alternative means, and these economic costs should not be higher than 15-20 percent in the case of captive traffic. It would be reasonable to assume that the aforesaid position would be true for India too.
6. **Equity Financing.** Experience shows that raising domestic debt/equity capital for smaller projects is relatively easy and in fact desirable since it avoids the exchange rate risk between local currency toll revenues and foreign currency debt. However, in many countries, local capital markets are not sufficiently developed to provide the long-term capital required for toll road projects.
7. The Malaysian North-South Expressway had a total capital cost of US\$3.192 billion, of which US\$755 million was equity (25 percent of the total capital cost) comprised of shareholders' equity and convertible preference shares issued to the contractors, industrial groups, and institutional investors in Malaysia. The project was financed entirely on domestic markets. There was a generous government support package and the capacity of domestic institutional investors to take large preference share issues also played an important role in the successful equity financing of the project.
8. Other examples of megaprojects in the East Asian countries include the Second Stage Expressway (SES) in Thailand and the Guangzhou-Shenzhen Super Highway in China, both of which involved foreign equity and debt financing. Although both of these projects later addressed serious problems, the SES structure was backed up by the equity participation of the Asian Development Bank, of major commercial banks in Thailand, and the Royal Property Bureau of Thailand, together with revenue sharing with the First Stage Expressway. The Guangzhou-Shenzhen Super Highway Project secured a firm repayment guarantee of bank loans by Guangdong International Trust & Investment

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<sup>4</sup> The World Bank, East Asia and Pacific Region, Country Development – Report No. 12778-VN August 1994

Corporation (GITIC) and obtained a government support provision including the acquisition of all necessary land at no cost and commercial development rights at interchanges.

9. The Indian capital markets do not have sufficient depth at the moment to support the risks involved in mega highway projects and is as yet not sufficiently developed to provide the long-term capital required for toll road projects, and therefore, private capital would be hesitant to flow into the sector.
10. **Senior Commercial Bank Loans and Debt Securities.** Procurement of long-term bank loans for a privately financed toll road project is a critical issue in developing and transitioning economies. The longest tenure that a toll road project company can obtain in a commercial bank loan in the East Asian countries studied is about five years, which is far too short to recoup the investment, whereas in many developed countries such as the United States and United Kingdom, the tenure of commercial bank loans may extend 15 - 30 years, i.e., matching the concession period.
11. To address these issues, certain solutions have been applied, including (i) long-term loans from government controlled banks, (ii) shareholders loans from an offshore parent company that raises funds on offshore capital markets, (iii) domestic bond issues underwritten by government controlled institutional investors, (iv) credit enhancement with respect to domestic fund raising and direct loans from donor agencies, (v) securitization of existing toll roads, and (vi) credit enhancement through revenue sharing with existing/apurtenant facilities.
12. There are many examples where the approaches set out above have been successfully applied. Indonesia used long-term loans of government controlled banks in many of their toll road projects. China has used shareholder loans from an offshore parent company that raised funds on offshore capital markets, as well as asset securitization of existing toll roads. The North-South Expressway in Malaysia and the M1/M15 in Hungary adopted domestic bond issues underwritten by government controlled institutional investors. The M1/M15 and M5, the Linha Amarela in Brazil, and the Cali-Candelaria-Florida toll road in Colombia have adopted credit enhancement of domestic fund raising and direct loans from donor agencies, and credit enhancement through revenue sharing with existing facilities.
13. While most experiences in Indonesia now tend to be discounted as being tainted, however, conceptually they are sound and technically feasible.
14. **Institutional Investors/Infrastructure Investment Funds.** Institutional investors can be a good source of financing for toll road projects since the long-term maturity of their funds matches the duration of a toll road concession. The Employees Provident Fund has invested in Malaysia's North-South Expressway and insurance companies in Hungary have invested in M1/M15. However, since institutional investors in developing countries are not active in the infrastructure sector in general, foreign institutional investors from developed countries can play an important role in filling the gap. Institutional investors, especially

insurance companies and pension funds in the United States, have been actively pursuing investment opportunities in privately financed infrastructure projects in Latin America and Asia. They have invested in toll road projects directly, through various investment funds<sup>5</sup>, and have purchased debt securities such as 144a bonds<sup>6</sup> in private placement.

15. In India too, these long term funds have not been active in the infrastructure sector. There exists a significant potential for such long term funds in India to invest in the highways sector.
16. **Initial Public Offerings (IPOs).** An IPO of a single asset company with a BOT arrangement can be difficult as the duration of future cash flows is limited by the fixed concession period and the enterprise is affected to a great extent by general stock market sentiments at the time of the IPO. On the other hand, an IPO based on multiple assets with a portfolio of stable cash-generating toll road projects may become an appropriate solution to fund raising issues in developing countries. China has used IPOs, often for multi-asset companies. Some examples include: Anhui Expressway (Hong Kong, 11/96), Guangdong A Share (Shenzhen, 1/96), Guangdong B Share (Shenzhen, 8/96), Jiangsu Expressway (Hong Kong, 6/97), Sichuan Expressway (Hong Kong, 10/97), Zhejiang Expressway (Hong Kong, 5/97), Shenzhen Expressway (Hong Kong, 3/97); Holding Companies: Cheung Kong Infrastructure (Hong Kong, 7/96), New World Infrastructure (Hong Kong, 10/95), and Road King Infrastructure (Hong Kong, 6/96). In Indonesia Jasa Marga, the public toll road company, planned an IPO but it was postponed due to the Asian financial crisis.
17. **Asset Securitization.** One innovative approach is the leveraging of existing highway assets to raise new funds in capital markets. This approach can be attractive to private investors, since they need to assume only limited construction/completion risks and the transactions offer the prospect of high returns. The approach is also attractive to governments, since it permits them to obtain additional financing with relative ease.
18. China has been the pioneer of this approach and by securitization of existing highway assets, including roads financed with World Bank assistance, it has been able to raise large sums of additional capital from foreign investors. Major developments with respect to asset-based capital markets toll highway financing in China have included the following: (i) the raising of US\$100 million in 1994 by Sichuan Province through the private placement of equity shares in offshore markets to finance the development of the 90 km Chengdu-Mianyang Expressway; (ii) an equity offering of B shares on the Shenzhen Stock Exchange by the Guangdong Provincial Expressway Company in 1996; (iii) completion of a

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<sup>5</sup> E.g., the Asian Infrastructure Fund (AIF), and the Asian Infrastructure Development Company., Ltd. (AIDEC).

<sup>6</sup> This is a kind of global bond that is regulated under [the United States] Securities and Exchange Commission Rule 144a. The procedure for issuance and underwriting was simplified in 1990 and limited only to investors termed "Qualified Institutional Buyers (QIB)," who are professional institutional investors such as insurance companies and pension funds.

US\$200 million Eurobond issue by Zhuhai Highway Company Ltd. of Guangdong Province in 1996; and (iv) the listing of at least nine China-related highway stocks on the Hong Kong Stock Exchange by 1997, including Chueng Kong Infrastructure and Road King.

19. **Portfolio Approach.** The underlying principle is to pool projects and thereby diversify the investment portfolio and gain economies of scale. As a result, the pool of projects support each other. This kind of approach may provide a foundation for a company to grow into a large operating company to perform more pooled financing, and eventually raise funds on its own based on the financial strength of its underlying projects.
20. **Pinpoint Equity with an Indexed Infrastructure Bond Issue.** Pinpoint equity (high debt-to-equity ratio) coupled with inflation-indexed bond issues may be used to relieve investors of the problem of slow returns on their investment through dividends. The issues that arise here are: (i) the need for the investor to flexibly recoup its investment without hindering the opportunity of private financing; (ii) lowering the capital cost to achieve a more affordable toll rate; (iii) the need to provide the investor with incentives that lead to higher returns; and (iv) the need of the investor for liquid investments.
21. This concept was created in the United Kingdom. The project company of the Second Severn Crossing, Severn PLC, was formed with the minimum allowable equity capital for a private limited company, £100,000, of which the ordinary stock amounted to £50,000 and the preferred shares amounted to £50,000. The debt component comprised £131 million in indexed linked debt, £150 million in European Investment Bank loans, with £150 million in a standby letter of credit, and a £190 million of floating rate bank loan. Although the project company has succeeded in the operation of the existing Severn crossing mitigating the start-up risk of the new project, the equity/debt ratio of the newly constructed portion of the project is only about 0.02 percent. This pinpoint equity approach can free investors from the problem of slow recoupment through dividends and also may lower the cost of capital, in turn lowering the required toll rate to facilitate earlier transfer of the bridge back to the Government. In the case of Second Severn Crossing project, this approach was coupled with an RPI-indexed bond issue; the bond was listed so that investors were able to access immediate liquidity in order to address the drawback of the project financing approach of tying up investor's capital over the long term. Although this is a good practice for addressing these issues, it requires a very mature financial market to succeed.
22. **Option Concept.** The option concept is applied in many aspects of toll road financing, e.g., convertible preference shares and bond issues. It has also been used to provide liquidity for shares held by the contractors and the sponsor companies. The option concept is useful in giving flexibility to the financing structure and may broaden the horizon of fund providers for privately financed toll road projects. The North-South Expressway (Malaysia) and the M2 motorway (Australia) projects involved application of the concept to provide liquidity for shares held by the contractors and the sponsor companies.

23. **Value Capture.** The value capture concept is an approach by which the increase in real estate values created by a transport project, such as a toll road, are “captured” to help pay for the transport infrastructure. The approach is risky, however, because it relies on favorable trends in the real estate market. The concept has been planned or actually applied in a number of projects, for example, the Guangzhou-Shenzhen Superhighway in China, the Hopewell Bangkok Elevated Road and Track System (Thailand), and the Malaysia-Singapore Second Crossing (Malaysia). The learnings from these projects has been that over-dependence on real estate investment earnings to structure a transport concession is risky given the volatility of real estate markets.

#### **CHAPTER IV. SETTING AND ADJUSTING TOLL RATES**

1. The profitability of a toll road project, especially in inflationary environments, will depend much on the toll level, or increases achievable by the operators. Accumulated world experience suggests a number of general guidelines for setting and adjusting toll rates.
2. **General Guidelines for Toll Setting.** General principles suggested by one World Bank report (for Viet Nam) indicate that (i) tolling is appropriate only when traffic levels exceed 4,000-5,000 vehicles per day; (ii) toll rate levels should not result in excessive traffic diversion—with an upper limit of acceptability considered to be in the range of 10-15 percent; and (iii) under certain conditions, toll rates can be set higher where there is no feasible alternative.
3. Project revenues must be based on affordable toll rates, as was done in the World Bank assisted Toll Road Concession Project in Colombia (e.g., US\$0.0039 for cars for the full 51 km of Section 1 of the Project, in 1997 values, to be increased in line with the consumer price index). While the rates in the Colombian case determined by the Government exceeded short-term marginal costs, they were set at levels considered adequate to avoid excessive traffic diversion. The toll levels established for the various project links were set at levels consistent with existing tolls in the rest of the Colombian network, i.e., at a level that would allow full recovery of routine and periodic maintenance costs. The proposed tolls varied from 9 to 36 percent of user cost savings, with the lowest values corresponding to buses and the highest to medium trucks.
4. Different approaches taken in Brazil, Chile, and Mexico demonstrate the need for affordable toll rates. Tolls in Brazil have also been kept at relatively low levels by worldwide standards, usually about US\$0.04 per km, which has helped promote public acceptance of the program. Another instructive example is that of Chile, which has endeavored to keep tolls at levels that users are willing to pay for improved services (i.e., about US\$0.025-0.030 per vehicle-km, linked to the consumer price index). The contrast with Mexico, for example, a country with comparable GDP per capita as Colombia, Brazil, and Chile and where tolls have been in the US\$0.12-0.50 range, is marked.

5. **Uniform Toll Rate Issue.** An important issue is whether toll rates should be set by individual route or set uniformly across the network. In Japan, a toll revenue pooling system has been used for the entire inter-city network system, and independently for each urban expressway system, whereby tolls are set at equal levels for all of the routes within the network, regardless of the construction costs or traffic levels on the individual segment. The use of uniform toll rates was primarily to cross-subsidize less profitable routes with revenues from more profitable ones. Financial viability is thus to be achieved for the entire network, not by route or by segment. Although cross-subsidization may not necessarily require toll rates to be uniform, different levels of rates across routes or segments within an integral network would create confusion among users, and charging equal levels of rates would be more politically acceptable. Similarly, tolls for motorways operated by Autostrade S.p.A., the largest toll road concessionaire in Italy, have been uniformly set for cross-subsidization.
6. **Differential Toll Rate by Vehicle Categories.** Toll rate setting also involves an issue of specifying the number of vehicle categories to be charged different toll rates and the rate differences across categories. For inter-city motorways and expressways in developed countries including France, Italy, Japan, and Spain, there are currently five categories, although ways of classifying them vary somewhat across countries. Experience suggests that a larger number of categories tends to enhance the sense of fairness and thus is more politically acceptable. In Japan, the number of categories for inter-city expressways was raised from three to five in the late 1980s. With this change, complaints by users about vehicle categorization decreased.
7. There is no simple equation or a universal theory to determine rate differences across vehicle types. For inter-city motorways and expressways in selected developed countries (France, Italy and Japan), for example, a fairly substantial variation is observed in the extent of rate differences across these countries. Also it is often argued in developed countries that commercial vehicles including trucks and buses are favored in terms of the toll levels, compared with the capital and maintenance costs incurred by these vehicles. Malaysia, on the other hand, introduced a lower rate for buses as part of a transport policy to support public transport operators and to encourage bus use.
8. **Fixed or Distance-Based Toll Rate.** Another issue on toll rate setting relates to the choice of distance-based or fixed toll rates. Although a distance-based toll rate system is generally more reasonable as it better reflects the cost of service, it involves two major problems - requirements for large capacity at exits and leakage in toll collection. Since payments in a distance-based system should be made at exits, land and staff requirements could be large, which has been a primary reason for the use of fixed toll rates for urban expressways in Japan. Some of these shortcomings of distance-based toll rates will be eliminated by the introduction of an electronic toll collection (ETC) system.
9. **Toll Adjustment Procedures.** One issue is whether toll rate adjustments should be left to a governmental authority's discretion or based on a formula, usually linked to price index changes. In any case, there is a need to follow specified toll

- adjustment procedures once they have been set since uncertainty creates problems for toll road operators.
10. Toll rate adjustments are at the discretion of the Ministry of Finance in *France*, which tends to approve larger increases for less profitable companies. The French approach avoids unnecessarily high returns to investors, but at the risk of sacrificing efficiency by undermining incentives to make exceptional efforts to control costs or improve productivity.
  11. In Japan the appropriateness of toll rates are reviewed periodically by reflecting toll road users' opinion through the use of advisory committee to the Prime Minister. Final adjustments are made based on approval of an Inter Ministerial Meeting charged with responsibility for consumer price issues.
  12. The Government of Italy set a clear policy requiring users to pay their way, and an automatic toll adjustment mechanism linked to inflation has been used, agreed upon between ANAS (the National Road Agency) and toll road concessionaires. More specifically, a reevaluation is undertaken with respect to the portion of toll rates that corresponds to operation and maintenance costs that are likely to be affected by inflation; with this mechanism, toll rates in Italy have been raised nearly every year since the early 1970s.
  13. Spain's approach to regulating the toll rates of concessionaires, on the other hand, is based on a formula linked to price inflation. The Spanish approach has the merit of promoting new investment and efficiency, and it has only limited risks of unnecessarily high returns to investors, since "excess" profits are moved to a Special Reserve.
  14. The experience of the Hong Kong Special Administrative Region presents a firm and fair toll adjustment mechanism, perhaps a "best practice," at least, for private sector concessionaires. With the Western Harbour Crossing, the Government and the private franchisee established a straightforward, transparent, fair, and binding Toll Adjustment Mechanism. If traffic and therefore revenue falls below a forecast volume, it will allow the operator to advance the prespecified date of a toll increase. Conversely, if the amount of revenue received by the operator is above the forecast, resulting in a rate of return that exceeds a specified range, a toll increase will be deferred. As part of the mechanism, a toll stability fund has been established to which income above the maximum allowed is channeled, in order to offset the need for future toll increases. Thus, it gives the franchisee the certainty that tolls can be adjusted as the need arises, while providing for a low and stable toll regime, this approach gives the franchisee security in the project's ability to reap a minimum return on the equity investment, while at the same time it gives financiers the assurance that the project will be able to service its debt requirements over the fixed concession period. However, there still may be a problem if the concessionaire's revenues fall short due to slower than expected traffic growth. In this case, a toll increase would just further discourage use without necessarily generating more net revenue. Such is in fact the case with the unprofitable Western Harbour Crossing, as its Toll Adjustment Mechanism proved to be unworkable in the negative economic climate some years ago.

15. An automatic tariff-adjustment formula applied in the Philippines may also be a “best practice” at least for investors. Philippine toll road concession agreements include automatic tariff adjustments based upon a parametric formula that takes into account many economic factors such as prevailing local and foreign interest rates, the consumer price index, currency values against United States dollars, and a construction materials price index. The tariff adjustment is guaranteed by the Government. The project economics-based automatic fare adjustment effectively alleviates one of the most common risks facing toll road investors—that of a predictable revenue stream. However, the strategy does have other implications, such as the fixed escalation of toll rates, which means that future road users will likely subsidize the initial ones.
16. In China, the Highway Law (effective January 1, 1998) provides that the initial setting and adjustment of highway toll rates are subject to the approval of provincial price bureaus and bureaus of communications. Significantly, the Highway Law provides no specific references to the circumstances under which toll rates may be adjusted. Based on customary practice among existing foreign-invested toll road companies, an adjustment formula, taking into account traffic fluctuations, would be agreed with the local government at the time the project is established.
17. As suggested by the experience of Indonesia, Mexico, and Thailand, uncertainty over toll adjustment procedure may discourage the private investors. Such adjustment procedures are best agreed unambiguously within the concession contract. In Indonesia, under Law No. 13/1980, the designation of a road section as a toll road and the determination of initial toll tariffs requires Presidential approval of proposals made by Minister of Public Works. Jasa Marga, the Indonesian toll road agency, undertakes to process such applications through the government regulatory and approval mechanism. Tariff rates are usually determined by comparing user cost savings on the toll road in question with the shortest non-toll alternative and the maximum tariff cannot exceed 70 percent of the vehicle operating cost and time cost savings. The concession company proposes tariff adjustments every two or three years based on a formula incorporating the consumer price index, but approval cannot be guaranteed by the government. In Mexico both toll increases and decreases also require approval of the Secretariat of Communications and Transport, which restricted the ability of most concessionaires’ to responsively adjust pricing to optimize revenues once the roads were open to traffic. Taking another example, in 1998, the Expressway and Rapid Transit Authority of Thailand asked the concessionaire for a new 22 km expressway section to reduce the tolls agreed in its concession contract (i.e., 40 baht or about US\$1 for a four-wheeler) after the Interior Minister stated that they were “too high.”
18. An approach for addressing uncertainty can be learned from the Malaysian experience, where the Government is attempting to refine its Toll Rate Adjustment Mechanism based on lessons learned from the case of North-South Expressway (for which the Government has had to pay huge sums to the concessionaire due to deferred toll rate increases). The proposed new method is

similar to the toll adjustment mechanism applied in the Hong Kong SAR in that the forecast traffic volume is annexed to the concession agreement. If the actual traffic level is more than the forecast level at a specified time, the Government could request either the deferral of a toll rate increase or a lowering of the level of toll rate increase. But if the actual traffic is less than forecast, the concessionaire could request to bring forward the timing of toll rate increases.

## CHAPTER V. LEGAL AND REGULATORY FRAMEWORK

1. Undoubtedly proper planning and establishment of an institutional framework are imperative for sustained investments, especially private investments, in the highways sector however, no planning and institutional framework can exist without a Framework that is designed to achieve the institutional objectives. The planning and institutional issues fall within the domain of the public sector. However, once the institutional issues are addressed and crystallized by the policy makers, the same can be implemented only through an effective Framework.
2. The Legal and regulatory Framework is one of the least visible aspects of toll road development, but is nevertheless a vitally important element. It is essential to have a legal and regulatory regime in place, that is well-drafted and covers basic concerns of the private investors. Some of the characteristics of an effective Framework are discussed below.
3. **General Need for Well-Drafted Laws and Regulations:** Irrespective of institutional options, well-drafted laws and regulations are essential for successful toll road development. In Japan, public corporations have been established under well-drafted laws, and strategic nationwide toll road plans are clearly defined every five years and issued as ministerial regulations. Spain enacted the General Law on Motorways in 1972, which called for the expansion of its intercity motorway system (autopista) to 6,594 km.
4. When the private sector is to be involved in toll road development, concession laws need to be well drafted. The host government must provide the basic legislative and regulatory authority for a given infrastructure project to be built and operated by the private sector. The Framework must identify and designate the individual ministries, government agencies, or local governments authorized to grant concessions. The enabling legislation may be general and enable different types of concessions to be granted, or alternatively, it may be specific and provide for a particular concession. Either approach should be acceptable provided that, among other things, the right agency is designated as concession grantor and the permitted term of the concession is sufficiently long so that the concessionaire will be able to build and operate the toll road in accordance with its business requirements.
5. In Hong Kong Special Administrative Region (SAR), the rights and obligations of the government and the concessionaire are regulated by legislative Ordinances that are enacted on a project-by-project basis. Each Ordinance clearly authorizes

the concessionaires' legal rights of toll facility operation and specifies to a highly detailed extent the terms and conditions for the allocation of specific project risk. Such clear risk-sharing, backed up by legislation that subjects each project to detailed regulations, appears to be a highly effective way to facilitate private sector participation in infrastructure development—particularly when a comprehensive regulatory framework for BOT does not exist.

6. In Argentina, detailed laws and regulations covering bidding documents, administration and enforcement of concession contracts, and pricing mechanisms already existed in other sectors (e.g., power, telecommunications, water), but were lacking in transport until they were developed in the mid-1990s.
7. An example where ambiguity in legislation can have drastic consequence is Hungary where the concession law (Act XVI of 1991) - which governs all concessions, not only for toll motorways - was not clear enough to prevent a successful challenge to a toll rate calculation method. The challenge was based on a contradictory provision in the Hungarian Civil Code that permits a judge to “adjust” a contract in “exceptional” circumstances in which the price is considered disproportionate to the service provided.
8. In Mexico the lack of clear legal and regulatory institutional arrangements discouraged lenders and builders from respecting their agreements. There were no formal mechanisms for the Government to obtain and address requests or inquiries from private sector parties before, during, or after the bidding process, which led to an often adversarial and less than transparent relationship between the parties. The independent regulatory authority for supervising contractual arrangements lacked sufficient capacity, and contracts were subject to the local court system, which represented a significant risk to international investors who were unfamiliar with the domestic legal system. With projects that have required direct government support, the Mexico's Secretariat for Communications and Transport's dual role as government regulator as well as concession partner sent somewhat conflicting signals to the private concessionaires.
9. China is still developing a legal and regulatory environment conducive to the private financing of new highways. Specific issues have included (i) the generally unclear line of authority between the central and provincial governments and a complex and ambiguous approval process, leading to project delays and increased costs; (ii) absence of legal convertibility of the Chinese currency and the lack of guarantees that foreign exchange will be available when required; (iii) limits on the amount of security a foreign-invested enterprise may provide to a foreign party, which can affect the determination of how highly leveraged a project foreign lenders are willing to finance; (iv) regulations restricting the availability of guarantees to foreign parties, including regulations that limit the capacity of the Chinese party to a joint venture from guaranteeing a foreign party's investment return, which makes it difficult to use deficiency payments; (v) the likely illegality of non-competition undertakings (e.g., with respect to competing roads and other modes of transport); and (vii) the lack of automatic toll rate adjustments in concessions, leaving project sponsors and lenders with no assurance that costs can be recovered over the life of a concession.

10. The enabling law system in Indonesia was ambiguous regarding the designation of the right agency as concession grantor. Pursuant to Law No. 13 of 1980 on Roads, Jasa Marga (Pederoso), which is currently a state-owned company, had been granted the general authority to “manage” toll roads throughout the country. Pursuant to Government Regulation No. 8 of 1990 on Toll Roads, the Minister of Public Works had granted permission to Jasa Marga to appoint persons and grant authority to develop specific toll roads. Using this authority, Jasa Marga has authorized various persons to manage various toll roads. Therefore, from the perspective of a concessionaire, which is authorized to manage and develop a toll road, the grantor is Jasa Marga, the obligations of which are not guaranteed or backed by the Republic of Indonesia.
11. **Bidding and Selection Procedures:** Formalized, transparent procedures for dealing with investors prior to and during the bidding process are required. Bidding should be competitive to minimize the level of government support and reduce residual risk bearing by the government. A clear bidding and negotiation process typically should have the following features:

the need for project requirements to be specified closely, to ensure evaluation is of like-for-like;

clearly defined government support measures in the bidding documents, where necessary as a maximum - rather than held back for negotiation; and  
simple evaluation criteria - for example, bidding at defined tariffs (to meet government policy objectives) to minimize the level of government investment required.

12. The regulatory framework in the Hong Kong SAR has been devised so as to ensure a “level playing field” through such means as a clear and straightforward tender process and criteria for proposal assessment. In addition, the whole of the tender process is monitored closely by the Central Tender Board and the Independent Commission Against Corruption.
13. Indonesia on the other hand is an example where the lack of transparency has long been an issue in toll road concessions. A number of the most profitable toll roads are partly operated by companies owned by a family member of a former President. While initially the involvement of the President’s family meant a reduced risk in approval procedures for the investors, however, this inevitably created a non-transparent environment in toll road concessions. The Ministry of Public Works is now investigating the corruption/transparency issue with regard to toll road concessions. The recent move of the Government of Indonesia to prepare clear prequalification and bidding procedures may encourage private sector participation and attract foreign investors in future toll road projects.
14. Thailand is another country with an at least perceived lack of transparency. For example, in the case of the Second Stage Expressway (SES) concession to Bangkok Expressway Company Limited (BECL), five consortia purchased the bidding documents, only two bids were received, and the second bidder was disqualified ostensibly for lack of experience. In the case of the Bangkok

Elevated Road and Track System project, the concession was awarded directly to Hopewell based on their project proposal, without competition.

15. With the development of its toll road program on a project - by - project basis, China has lacked a structured bidding and selection process set by government policy. Consequences have included the lack of standard documents and fixed procedures, and private negotiation of contracts rather than the use of transparent bidding procedures. The process is time consuming (e.g., eight years in the case of the Guangzhou-Shenzhen Superhighway) and “assurances” received during backroom negotiations may be later rescinded in response to political pressures.
16. The tendering process in Mexico lacked strict prequalification procedures and did not require the bidders to submit detailed financing plans. Consequently, many small-to medium sized concessionaires relied upon commercial bank loans for their equity commitments, which became problematic as soon as project revenues began to falter.
17. **Security Legislation.** The lack of provisions for the protection and enforcement of security arrangements (e.g., mortgages and liens) in a country’s legal system makes bankers extremely reluctant to lend to BOT projects.
18. The regulatory framework governing security in China is still in its infancy. While Chinese law does provide a framework for the provision of certain types of security, certain aspects, in particular enforcing security and prohibitions against government guarantees may diminish the utility of certain security arrangements. The Measures for the Administration of Security Provided to Foreign Parties by Organizations in the People’s Republic of China prescribes limits on the amount of security a foreign-invested enterprise may provide to a foreign party.
19. **Regulations of Foreign Direct Investment.** General laws and regulations concerning foreign investment may provide incentives or disincentives to foreign investment in toll road concessions. The Government of Malaysia, for instance, in pursuit of equity objectives has adopted a National Development Policy with the aim of securing at least 30 percent of the ownership of the Malaysian economy by Bumiputras, the indigenous people of Malaysia and at least 40 percent by Malaysians generally (Bumiputras or otherwise), leaving a maximum of 30 percent foreign equity ownership. However, in respect of equity holdings in toll road concessions, the Government has adopted an even stricter policy of permitting no more than an aggregate of 25 percent foreign equity. This policy effectively precludes foreign direct investment, but on the other hand has helped to develop domestic private sector.
20. **Currency Issues.** The currency used for the pricing of tolls and the ease of its convertibility to foreign currency affect the interest of international investors in toll road projects. To minimize the risk of hard currency investments, some of the toll rate formulas in the Philippines include variables that reflect exchange rate movements. Under current regulations in China, tolls in a highway project must be priced and collected in the country’s currency, the renminbi, which is not freely

convertible. The ability of a foreign-invested highway project to secure adequate foreign exchange payments is therefore subject to risks relating to exchange rates and access and availability of foreign currency.

21. **Dispute Resolution.** Although no one hopes for disputes on a BOT project, the regulatory framework must provide for adequate dispute resolution procedures in event that such disputes occur. China adopts a liberal approach, at least in theory. Any contract to which a foreign party is a signatory is a “foreign economic contract,” and the parties to such a contract may stipulate arbitration either inside or outside China. While there have been difficulties in enforcing foreign arbitral awards rendered in China in practice, China is bound under international treaty to enforce foreign arbitral awards rendered in other jurisdictions. The concession contract of Metro Manila Skyway in the Philippines clearly spells out procedures for arbitration and dispute resolution in accordance with international law.
22. **Land Acquisition Law.** The law related to land acquisition and resettlement may affect the implementation of toll road projects. While it is possible that government agencies and public corporations may be authorized to expropriate land under the relevant laws, it is difficult to provide such right to the private sector and this could lead to an increased cost of toll road development.
23. A Presidential Decree in Indonesia states that the land on which toll roads are built will be state property and land acquisition should be conducted by the Government and the cost also borne by the Government. Due to a lack of public funds, however, concession companies are asked to pay the cost of land acquisition while the government still maintains ownership. As this practice is not based on any official guidelines, there is general ambiguity among investors.
24. A foreign-invested enterprise in China can acquire only the right to use land and not actual ownership. Moreover, there are limitations on the mortgageability of land use rights, depending on the nature of the rights obtained. Generally, a significant premium, prohibitive in the case of a highway project involving large tracts of land, is necessary in order to obtain land use rights that are freely mortgageable.
25. In Thailand, a 1987 law and subsequent Royal Decrees govern the acquisition of land for transport infrastructure projects, but efficient adjudication mechanisms and well-defined procedures for land acquisition have not yet been established. In the case of the Second Stage Expressway, the Expressway and Rapid Transit Authority was unable to deliver key plots of land to the concessionaire on a timely basis, which under the concession contract enabled the company to consider the affected section as “delayed works” subject to compensation in the form of a share of revenues from the (existing) First Stage Expressway.

## **CHAPTER VI. INDIA’S FRAMEWORK**

1. India has a developed legal framework that deals comprehensively and with clarity, the issues discussed above, including laws relating to creation of security on immovable assets, land acquisition, foreign investment guidelines and

currency convertibility. The weaknesses lie primarily in the inertia in the legal system to implement and execute these laws and contractual commitments. Some of these issues can be dealt with through contract and appropriate institutional and regulatory interventions.

2. **Constitutional Position.** Under the Constitution of India, the following provisions apply to Highways :

List I, Entry 23 : Highways declared to be National Highways

List II, Entry 13: Communication that is to say roads, bridges, ferries and other means not specified in List I

List II, Entry 59 : Tolls

3. List I details the areas where only the Central Government has the power to legislate, while List II details the areas where only the State Governments have the power to legislate. Accordingly, while National Highways are covered under List I and therefore, are under the legislative jurisdiction of the Central Government, other highways not covered by List I, including therefore, State Highways, are covered in List II and are therefore, within the exclusive legislative jurisdiction of the States. Entry 59 of List II identifies Tolls and therefore, all forms of tolls, including tolls for State Highways, can be legislated upon by States. As regards tolling of National Highways is concerned, the legislation by the Central Government can deal with all aspects of National Highways, including tolling thereof.

4. **Highway Regulations – Central Government Initiatives**

Pursuant to the legislative competence under the Constitution, the Central Government has enacted the following legislations :

- (a) **National Highway Act, 1956** : This legislation primarily provides for :

Functions relating to development, maintenance and management of National Highways to be carried out by the Central Government;  
The Act was amended in June, 1995 to permit private sector participation<sup>7</sup>. With the amendment, the Act now :

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<sup>7</sup>**Section 8 (A) National Highways Act, 1956 :**

(1) Notwithstanding anything contained in this Act, the Central government **may enter into an agreement with any person** in relation to the development and maintenance of the whole or any part of a national highway.

(2) Notwithstanding anything contained in section 7 **the person referred to in sub-section (1) is entitled to collect and retain the fees at such rate for services or benefits rendered by him** as the **Central Government may by notification in the Official Gazette specify** having regard to the expenditure involved in building maintenance management and operation of the whole or part of such National Highway interest on the capital invested reasonable return the volume of traffic and the period of such agreement.

(3) A person referred to in sub-section (1) shall have power to regulate and control the traffic in accordance with the provisions contained in Chapter VIII of the Motor Vehicles Act 1988 on the National Highway forming subject matter of such agreement for proper management thereof.

(4) Whoever commits mischief by doing any act which renders or which he knows to be likely to render any National Highway referred to in sub-section (1) of Section 8A impassable or less safe for travelling or

Empowers the Central Govt. to enter into agreements with any person for development and maintenance of whole or part of a national highway;

Permits the Person to collect and retain the fees **at such rate** for services or benefits rendered by him **as the Central Government may by notification in the Official Gazette specify** having regard to :

- expenditure involved in building, maintaining, managing and operating the whole or part of such National Highway
- interest on the capital invested
- reasonable return
- the volume of traffic
- period of such agreement

Empowers the Person to regulate and control the traffic on the National Highway for proper management thereof, in accordance with the provisions contained in the Motor Vehicles Act 1988;

Provides for punishment for any person that commits mischief by doing any act which renders or which he knows to be likely to render any National Highway referred to above, impassable or less safe for traveling or conveying property shall be punished with imprisonment of either description for a term which may extend to five years or with a fine or with both.

Therefore, under the National Highways Act, the Government may enter into a contract with any private person for development and maintenance of a National Highway or part thereof and in this regard, allow the person to charge, recover and retain a toll, as may be notified by the Government and manage the Highway by regulating traffic.

**(b) National Highways Authority Act, 1988 :** This Act established the NHAI which was operationalised in February 1995. All policy matters relating to National Highways are decided by the Ministry of Surface Transport. The Central Government has decided that the policy of privatisation of the National Highways will be implemented by the National Highways Authority of India (NHAI). In exceptional cases the Central Government may also assign the function of Implementing Agency (IA) to the States.

**(c) The Central Road Fund Act, 2000 :** Enacted on December 27, 2000, this Act provides a Statutory status to the existing Central Road Fund governed by the Resolution of Parliament passed in 1988, for development and maintenance of national highways and improvement of safety at railway crossings, and for these purposes to levy and collect by way of cess, a duty of excise and duty of customs on motor spirit commonly known as petrol, high speed diesel oil and for other matters connected therewith.

**(d) The Control of National Highways (Land and Traffic) Act, 2002 :** Enacted on January 14, 2003, this Act provides for control of land within the National

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conveying property shall be punished with imprisonment of either description for a term which may extend to five years or with a fine or with both.

Highways, right of way and traffic moving on the National Highways and also for removal of unauthorised occupation thereon.

- (e) **The National Highways (Collection of Fees By Any Person For The Use of Section of National Highways/Permanent Bridge/Temporary Bridge on National Highways) Rules, 1997 (“the Rules”)**: Pursuant to Section 8A of the National Highways Act, 1956 read with Rule 3 of the Rules, the Central Government may enter into an agreement with any person for development and maintenance of the whole or in part of a National Highway. Such agreement may permit the concessionaire to collect and retain the fees at agreed rates from different categories of mechanical vehicles for an agreed period for the use of the facilities, subject to the terms and conditions of the agreement and these Rules.

These Rules further provide that the rates of fees and period of collection shall be decided and shall be specified by notification in the official gazette by the Central Government having regard to the extent involved in building, management and operation of the whole or part of the concerned section of the national highway, interest on capital invested, reasonable return, the volume of traffic and the period of such agreement.

#### 5. **Legal and regulatory risks for the Private Investors**

- (a) There continues to be a certain level of overlapping of jurisdictions under the National Highways Act and the Motor Vehicles Act and the Rules framed thereunder, in the context of highways. While the State Governments continue to have jurisdiction to enforce the provisions of the Motor Vehicles Act, under the Highways Act, the NHAI/the private developer (as the case may be) also to regulate and control the traffic on the National Highway for proper management thereof, in accordance with the provisions contained in Motor Vehicles Act 1988. However, the operation of the provisions of these Acts and Rules are quite independent of each other, considering that the former applies to the development and maintenance of highways and the latter applies to vehicles that ply on them. It may be worth considering if the provisions of the Motor Vehicles Act 1988 can be streamlined by appropriate amendments to ensure that the implementation of some of the provisions of the Motor Vehicles Act and Rules can be passed on to the NHAI/operators developing and maintaining the highways (for instance, ensuring adherence to terms of permits, adherence to weight and speed limits, penalty for violation of the same, etc.) to allow the operator more flexibility and freedom to manage the highway.
- (b) The Rules discussed above clearly provide that the Central Government retains the ultimate right to determine, fix and notify the toll rates and concession period and also to make any changes thereto. For a private investor, this government risk is significant. However, some of this government risk can be dealt with by “regulation by contract”, i.e. under the concession agreements.
- (c) Generally, the concession agreements specify the rates for different categories of vehicles. The scope of revision of these rates is generally limited and much depends on the final bargain reached with the Government. In some concessions, upward revision with a cap of 10% every year is allowed. In others,

no revision is allowed during the concession period and is allowed only if the concession period is extended upon occurrence of events specified in the agreement. Thus the entire risk of traffic rests with the investors and other financiers of the project, which calls for a good quality study on traffic statistics. However, as long as some formula for revision of the toll (which takes into account the expenditure involved in building, maintaining, managing and operating the concerned section of the highway, interest on capital invested, reasonable return, the volume of traffic and the balance remaining period of the concession) can be stipulated in the concession agreement, the risk of the Government's unwillingness to revise the toll may be mitigated. Stipulation of such formula in the concession agreement does not militate against the provisions of Rule 3(1) and 3(2) of the Rules.

- (d) The Government also grants road projects under annuity schemes and shadow tolls, where the developer/operator receives a fixed sum from the Government, irrespective of the volume and type of the traffic. In such schemes, the Government retains the commercial risk of traffic volumes and therefore, has been very successful in attracting private investment in highways. The NHAI has primarily driven these arrangements and has been responsible for implementing the same, including for the upgradation and improvement of existing highways.
- (e) In addition to the NHAI Act, 1988 and the National Highways Act, 1956 certain legal & regulatory compliances arise under the Motor Vehicles Act, 1988 ("MV Act") that need to be addressed, to take the process of privatization forward. For example, under Section 138 of the MV Act which comes under Chapter VIII thereof, (Control of traffic), the State Government is empowered to make rules relating to management of highways, including on issues like :-

removal of vehicles and safe custody of vehicles including their loads which have broken down or which have been left standing or have been abandoned on roads;

installation and use of weighing devices;

the maintenance & management of wayside amenities complexes;

the maintenance & management of parking places and stands and the fees if any which may be charged for their use.

Section 212 of the MV Act casts a duty on the State to publish the rules in the official gazette to make them effective. Further in terms of Sec 212(3) every rule made by any State Government, is to be laid before the State Legislature.

While the new Section 8A of the National Highways Act provides that the private developer shall have the right to regulate and control traffic on National Highways, in accordance with the provisions contained in Chapter VIII of the MV Act, including the provisions of Section 138 thereof discussed above, however, the powers under Section 138 can be exercised only by rules to be notified by the State Government in the official gazette and placed before the legislature.

Therefore, notwithstanding the grant of concession by the Central Government to a private developer, it appears that the rules for the aforesaid activities would still have to

be notified by the State Governments. As far as a private investor who proposes to develop a toll road and proposes to build, for instance, a wayside amenity as part of his business plan, it would appear that in addition to the concession from the Central Government, but there may be an approval and notification required from the State Governments, if not already notified.

## 5. Highway Regulations - State Initiatives

### MADHYA PRADESH

(a) **Indian Tolls (M.P.) Act, 1932** : This Act was enacted to facilitate private sector participation in road projects. The Madhya Pradesh Government has also amended the Indian Tolls (M.P.) Act 1932 which permits the levy of toll on new constructions as well as improvements of road and bridge projects.

(b) **Madhya Pradesh Highway Bill 2001** : This bill primarily provides for :

- a modern legal frame work for the regulation and development of road sector to facilitate implementation of the policy effectively and within the prescribed time frame;
- Prepared on the guidelines of a Model Highway Act issued by Govt. of India, it appears that the Bill has been approved by Cabinet and sent to Govt. of India for concurrence;
- Salient features of the Bill are as follows:
  - Declaration of Highway Authority and powers thereof.
  - Fixing of highway boundaries, building lines and control lines and imposition of certain restrictions and regulations for use of land within these lines.
  - Regulation or diversion of right of access to highway.
  - Compulsory acquisition of land and payment of compensation thereof including determination of amount of compensation by agreement.
  - Provisions for prevention of unauthorized occupation and encroachment on a highway including removal of encroachments.
  - Provisions for prevention of unbridled ribbon development.
  - Provisions to facilitate private partnership in highway projects.
  - Levy of betterment charges for increase in value of land due to construction of highway.
  - Provisions to secure safety of traffic and prevention of damage to highways, including prohibition of use of heavy vehicles on certain highways.
  - Details of penalties for violation of various provisions of the Act and appeals thereof to competent Court Authority for redressal of grievances, if any.
  - Powers and duties of Police and village officials in respect of highways have been clearly defined.
  - Provisions for eviction of persons, wrongfully occupying any land which is a part of a highway or occupation of which contravenes any provision of the Act.

- (c) **The Madhya Pradesh Adhoshanrachana Vinidhan Nidhi Board Adhiniyam 2000 Act** : This Act was enacted to raise and deploy earmarked funds for infrastructure projects. The first project proposed to be taken up by the Board involves the issue of Bonds of Rs.500 crores for development of Roads.

## **RAJASTHAN**

Rajasthan became the first state to announce a State Road Policy, facilitating the entry of private enterprise in the roads sector;

According to rough estimates, nearly Rs 70,000 million will be needed over the period of next 10 years for strengthening the roads sector;

The Government has amended the laws to enable private investment. The Motor Vehicles Taxation Act, 1951 was amended so that private entrepreneurs can levy toll;

A model concession agreement has been drafted for inviting private sector to develop roads on a Build-Operate-Transfer (BOT) basis;

The enabling policy measures have facilitated the commissioning of four projects in the State on a BOT basis. Seven private sector projects are currently under construction and seven more are at various stages of the tender process.

### **Key Policy Initiatives in Road Sector**

The State Government promulgated a Road Policy in 1994 (Policy on Road Development in Rajasthan), the objective of which was to actively seek and encourage private sector participation in the roads sector in the state. The private sector is welcome to invest in projects of the following nature :

Bridges on major rivers like Chambal, Parvati, Kali Sindh, Parvan, Mahi, Luni etc.;

Bypasses to major district towns on State Roads and National Highways;

Construction of Rail Over Bridges (ROBs) at level crossings on State Roads and National Highways;

Construction of tunnels on State Roads and National Highways;

Improvement and upgradation of State Highways;

Construction of wayside facilities, truck terminals and transport nagars;

Construction of urban improvement projects and urban transportation projects;

Construction of tourism related infrastructure facilities;

As an enabling mechanism to make the Road Policy effective, various other measures have been taken, including :

- amendment to the Motor Vehicle Taxation Act (1951);
- revision of the toll rates;
- setting up of a State Road Development Fund for providing seed capital;
- drafting of a model concession agreement.

### **Highlights of the New Road Policy 2002**

The policy for development of road sector under BOT basis which was framed in Rajasthan in 1994, has been recently modified to encourage a greater level of participation of entrepreneurs in development of road sector. Major highlights of the new policy are :

#### **Legal Frame Work:**

The new policy has been implemented with the issuance of the Rajasthan Road Development ordinance.

#### **Encouragement to Entrepreneur**

Entrepreneur has the right to recover the investment by collecting fee for the cost of project, expenditure incurred on collection of fee, interest and reasonable return after implementation of the project;

Provision of substitution agreement for facilitating the investors for arranging loan from Financial Institutions has been made;

As per new policy, entrepreneur can suo-moto propose the construction of project by private investment. After receiving such proposals, tenders will be invited by public notice and selection of lowest proposals is made out, but before awarding the work, the original project proposer shall be given opportunity to take up the project on the lowest bid. In case the proposer agrees then project is awarded to him other wise lowest bidder is selected to execute the project;

The entrepreneur can provide hoardings and may use right of way of road without causing any traffic hazard;

The fee rates shall be increased by 10% in every two years. This standard increase in fee will facilitate the investor in correct formulation of projects;

Part proportionate fee can be collected on 50% completion of road projects, provided that minimum construction length would be 50 Km;

For resolving disputes if any, provision of steering group, standing committee and sole arbitrator has been incorporated;

### **Encouragement To Financial Institutions**

- The provision of substitution agreement has been made in the new policy for arranging and repayment of loans from Financial Institutions. As per provision of this agreement, if investor fails to repay the loan, the financial institutions have right to select another investor for the project;
- Formulation of correct project is the basic necessity for the decision of loan amount by the Financial Institutions. As per new policy, consultants can be appointed if required for formulation of projects.

### **Public Interest**

In the new policy, public interest has been taken care of as follows:

- Entrepreneur shall make all arrangements for smooth and safe flow of traffic during implementation and commercial operation period of project;
- The project facilitates shall be maintained as per norms during commercial operation period;
- The investor shall maintain all existing public services lying at the project site;
- Collection of fee more than the prescribed fee rates shall be termed as event of default resulting to termination of agreement.

### **State Road Development Fund**

A fund was created in 1994-95 to provide seed money for projects financed by the Financial Institutions. Wherever Institutional financing is to be obtained, the State Government has decided to provide the seed money / balance investment on the project through provision in the state budget or through the Road Development Fund or through cross-financial assistance from other Government Corporations.

### **Policy Aspects**

The State Government promulgated a Road Policy in 1994 (Policy on Road Development in Rajasthan), the objective of which was to actively seek and encourage private sector participation in the roads sector in the state. There are already a number of projects that have been developed by the private sector on BOT basis under this policy. This also indicates that there is a level of acceptability towards the concept of paying toll for the use of roads in Rajasthan.

The Rajasthan Motor Vehicles Taxation Act (1951) was amended essentially to enable the private sector to participate in roads sector on a Build, Operate and Transfer (BOT) basis. The other key enabling policies are as follows:

This agreement lays down the terms and conditions of Private Sector Investment on a BOT basis. These guidelines specify the techno-economic and legal modalities of identifying the private participant and clarify some operational issues. Some of the salient features are:

A High Level Committee comprising of the Secretary (PWD), Chief Engineer (Projects) and Chief Engineer (Roads) will evaluate the projects to be awarded on BOT basis;

The Government will arrange for acquisition of land for construction of the project, arrange to shift all utilities and make available land free from all encumbrances to the entrepreneur;

If government increases / decreases the toll rates, appropriate changes in the concession period will be allowed;

Government will enter into a tripartite agreement with the private entrepreneur and the Financial Institution (FI). The objective of the agreement is to provide a level of comfort to the lending FI for financing the project. Under this agreement, in case of any change in the policy of the government, due to which the private entrepreneur is not allowed to charge toll, the State Government will compensate the private entrepreneur for the remaining amount of his total expenditure in the project which he has not recovered along-with interest at the rate of 20% per annum;

The promoter can exploit wayside land to create facilities outside the road boundary and for advertising within road boundary during the concession period;

In case of any dispute, a three-member arbitration panel will look into the matter. The panel would constitute of one member each nominated by the private entrepreneur and the Government and one member appointed by mutual consent of both the parties.

## **CHAPTER VII. NHAI – POTENTIAL ROLE AS REGULATOR**

1. NHAI was established under the National Highways Authority of India Act, 1988 but was operationalised on in February 1995. The main features of NHAI are :

Autonomous Body with executive responsibility for the development, Maintenance and operation of those National Highways and associated facilities vested in it by the Ministry of Surface Transport;

Intended to take over the management of the entire National Highways on agency basis in a phased manner;

The Authority has been entrusted with the execution of the highway projects under ADB-III as well as OEC-III;

NHAI will also be implementing other externally - aided projects like World Bank-III and maintenance thereof;

NHAI will also be responsible for implementation of the policy of privatization in highway sector;

2. The NHAI is playing the pivotal role in the implementation of the National Highway Development Project (NHDP). As is well known, the project includes :

Golden Quadilateral: Delhi-Mumbai-Chennai-Kolkata-Delhi ( 5952 kms);

North-South Corridor: Srinagar to Kanyakumari with spur from Salem to Cochin & East-West Corridor: Silchar to Porbunder ( 7300 kms);

The project envisages a total investment of Rs540bn spread over a nine-year period;

Golden Quadrilateral is scheduled for completion by the end of 2003;  
North-South-East-West Corridor by the year 2009.

3. The Ministry of Surface Transport has issued guidelines to NHAI for awarding all the contracts of Golden Quadrilateral by June 2001. The authority has also been given a time frame of 40 days for awarding the contracts.
4. Roads have so far been essentially funded through budgetary allocations. For funding NHDP, annuity based model is primarily been adopted. In addition, NHAI is financing projects by a host of financing mechanisms such as :

Cess on Diesel & Petrol which is expected to provide Rs20bn annually for the NHDP;

The states are also getting Rs 9.62 billion for development of State roads;

A dedicated road fund has been created by the central government.

It is expected that the total collections in the fund will be to the tune of around Rs 50billion. The allocations from the fund would be:

50% of the proceeds from additional excise duty on diesel would be allocated for development of rural roads;

Of the remaining balance, 57.5% would be provided for national highways;

27% for state roads;

3% for development of roads of interstate and economic importance; and

12.5% for railway safety works such as rail roads over bridges, manning of level crossings etc.

Issuance of bonds by NHAI guaranteed by Government;

In FY01- NHAI has raised Rs 5 billion through issuance of Bonds;

Borrowing programme of the authority was delayed because of 54EA and 54EC benefits accorded to investments in Mutual Funds till September 2000;

In the second round of issue the authority has raised Rs20bn in March 2001;

In budget 2001-02, government has increased the allocations for development of roads by 93% to Rs 87.27bn;

External funding agencies like World Bank, Asian Development Bank and OECF.

World Bank Sanctioned loans worth US\$897mn

Asian Development Bank has sanctioned loans worth US\$180mn.

NHAI further expects to raise US\$400mn from World Bank and US\$200mn from ADB for NHDP every year.

Talks are in advanced stages for an assistance of US\$500mn from World Bank Loan and US\$340mn ADB.

Issuing of Infrastructure Bonds – In FY01, the authority issued raised Rs25bn from the issue of Infrastructure Bonds. They propose to further raise Rs31bn in FY02 and around Rs62bn in FY03.

By setting up its independent companies and borrowing from the market.

Through Build, Operate and Transfer schemes by providing necessary regulatory framework for accessing private financing The various BOT schemes include

SPV's (Special Purpose Vehicles)

Annuity

Shadow Tolling

5. In spite of all these concessions, private sector exposure has been below the expected levels. This is primarily due to reasons like:

Reluctance of the private sector to participate in long-term projects;  
Land acquisition problems;  
Difficulty in toll collection in the operating phase in certain stretches;  
Although the Indian transportation infrastructure is one of the largest in the world, it is far from being the best;  
The inadequate road infrastructure hence acts as an economic bottleneck impeding growth of both these industries;  
In the absence of user charges, the road sector in India has relied entirely on budgetary resources, which stagnated at about 3 percent of the total plan expenditure during the seventh as well as the eighth five-year plans;  
In absolute terms, the funds allocated have proved grossly inadequate. Given the emphasis on expansion of basic social services coupled with the pressure on fiscal deficit, any major shift of budgetary resources in favor of highways seems unlikely, and cannot in any case be justified in the overall context of government's commitment to commercialize infrastructure services;  
It is only through the levy of user charges that government will be able to develop the national highways on a sustainable basis, and attract the requisite private investment for this purpose;  
User-paid highway development would also ensure a superior level of maintenance through the BOT concessionaire;  
The highways presently suffer from poor maintenance and neglect, primarily due to the lack of funds.

6. In addition to the above factors, there are further factors such as the per capita income, the excise and sales duties structure and cost of fuel, coupled with the existing road conditions in India, that do not allow substantial growth of vehicular market in India and consequently, the traffic on highways, which is why the road projects are not attracting investors/developers, except under annuity/shadow toll schemes.
7. One possible solution to this challenge could be introduction of the concept of Integrated Infrastructure Corridors involving large sections of highways, which could make these projects commercially and financially viable for the private investors/developers. The Central Government has issued a notification, whereby the foreign developers are allowed to invest in projects to develop townships in India. A copy of this notification is annexed to this Paper as **Annexure "A"**. Clearly these kind of projects would have to be pushed by the Central Government along with the State Governments.
8. In the above circumstances, imposing user charges in a transparent and regulated environment seems to be a viable alternative for reversing this trend. It is submitted that the NHAI is best suited to assume the role of an autonomous and independent regulator with the additional responsibility for developing such highway sectors that do not attract appropriate bids from the private sector. NHAI is already performing several of the roles required for an effective regulator, such

as providing a strong institutional framework to undertake strategic planning of networks, acting as the nodal agency and interface with the Government and experience in raising large funds. It is submitted that the regulations should be strengthened to provide additional responsibilities and powers to NHAI to undertake regulatory functions such as toll determination, managing bidding process for concessions and to regulate the concessionaires.

9. While a fundamental principle of a good regulatory model is that the regulator and operator in an infrastructure sector should not be the same, for example as is evident in the telecom and power sectors, however, the distinction in the highways sector is that there is ordinarily no obvious competition in highways and perhaps this conflict is more relevant in projects that require direct government support or where NHAI is a partner with the private developer. However, in the long term perspective, it would be necessary for NHAI to evolve either as a pure regulator or as a developer that will be subject to the independent regulatory structure. Furthermore, for the private investor, the Government risk can be perceived as a serious risk and most private investors would be reluctant to deal with NHAI as the regulator so long as the Government continues to exercise control over its policies and decisions. The Regulator must be truly independent for a long term visible impact on private investments. As discussed above, since in the current annuities and shadow toll schemes the market risk is completely absorbed by the NHAI/Government, there is a reasonably high level of interest amongst the private sector. However, going forward, private investments in BOT projects as well as O&M, ROT and Management contracts must be encouraged on a basis that the commercial risks are absorbed by the private investors. To this end, it is imperative that the sector has an independent regulator in place that will award contracts on a transparent basis and also determine and fix tolls based on commercial and public interest considerations and not on political considerations. India already has examples of independent regulators acting in diverse infrastructure sectors, such as telecom, power and major ports.
10. The Paper therefore, recommends that the regulatory principles discussed and recommended above be formulated for National Highways and the responsibility for regulating the sector and implementing the government policies be entrusted to an independent regulator. The NHAI with its vast experience in development of highways, including in raising funds, should continue to act as a developer and gradually divest its regulatory function. NHAI would then be expected to compete with other private developers, for example the way ONGC currently competes with international oil companies, without any further state support or patronage. India has seen several examples of state owned utilities in the telecom and power sector re-inventing themselves to meet the challenges of competition and also eventually lead to privatisation of such state owned utilities.

Government of India  
Ministry of Commerce & Industry  
Department of Industrial Policy & Promotion  
SIA (FC Division)

PRESS NOTE NO. 3 (2002 SERIES)

Subject: Guidelines for FDI in development of integrated township including housing and building material

1. Government vide Press Note No. 4 (2001 series) permitted FDI up to 100% for development of integrated townships, including housing, commercial premises, hotels, resorts, city and regional level urban infrastructure facilities such as roads and bridges, mass rapid transit systems and manufacture of building materials. Development of land and providing allied infrastructure will form an integrated part of township's development.
2. FDI in the development of integrated townships will be subject to the following guidelines:
  - i) The foreign company intending to invest, shall be registered as an Indian Company under Companies Act 1956 and will henceforth be allowed to take up land assembly and its development as a part of Integrated Township Development. All such cases would be processed by FIPB on the recommendation of Ministry of Urban Development & Poverty Alleviation and other concerned Ministries / Departments. Ministry of Urban Development & Poverty Alleviation will develop an exclusive cell to deal with such cases.
  - ii) The core business of the company seeking to make investment, should be integrated township development with a record of successful execution of such projects elsewhere.
  - iii) The minimum area to be developed by such a company should be 100 acres for which norms and standards are to be followed as per local bylaws / rules. In the absence of such bylaws / rules, a minimum of two thousand dwelling units for about ten thousand population will need to be developed by the investor.
  - iv) The investing Foreign company should achieve clear milestones once their proposal has been approved.
    - a) The minimum capitalisation norm shall be US\$ 10 million for a wholly owned subsidiary and US\$ 5 million for joint ventures with Indian partner/s. The funds would have to be brought in upfront.

- b) A minimum lock-in period of three years from completion of minimum capitalization shall apply before repatriation of original investment is permitted.
- c) A minimum of 50% of the integrated project development must be completed within a period of five years from the date of possession of the first piece of land. However, if the investor intends to exit earlier due to reasons beyond his control, it shall be decided by FIPB on a case-to-case basis.
- v) Conditions regarding the use of land for commercial purposes, development charges, external development charges and other charges as laid down in Master Plan / Bylaws, preparation of layout and building plan, development of internal and peripheral development, development of other infrastructure facilities including the trunk services etc., will be the responsibility of the investor as per planning norms and standards on similar lines as those applicable to local investors. In the absence of such standards and norms, every State Government may decide their own conditions for which the Urban Development Plan Formulation and Implementation guidelines circulated by the Ministry of Urban Development & Poverty Alleviation may serve as a guiding principle.
- vi) Land with assembled area for peripheral services such as police stations, milk booths will be handed over free of cost to the Government / local authority / agency as the case may be.
- vii) The Developer will retain the lands for community services such as (i) schools (ii) shopping complex (iii) community centres (iv) ration shop (v) hospital / dispensary. These services will be developed by developer himself and shall be made operational before the houses are occupied.
- viii) The developer, after properly developing playgrounds, park, will make it available to the local authorities free of cost.
- ix) The developer will ensure the norms and standards as applicable under local laws / rules.
- x) For companies investing in Special Economic Zones, Foreign Investment Promotion Board may accord exemption to any of the above mentioned conditions on a case-to-case basis. This will, however, be an interim measure till guidelines are evolved in due course in a need based manner.

(M.S. SRINIVASAN)  
Joint Secretary to the Government of India

No. 5(6)/2000-FC I dated 4th January 2002